

Multiple Sclerosis and Central Nervous System Autoimmune Diseases Research

Group leader

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Researchers

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DESCRIPTION

Developing interdisciplinary research is essential to advance knowledge, optimise therapeutic strategies in multiple sclerosis and other autoimmune diseases of the central nervous system, and ultimately improve patients' quality of life. Our group comprises a multidisciplinary team with broad expertise in neurology, immunology, neuro-ophthalmology, and clinical research. Each member brings a unique and complementary perspective, enabling a comprehensive approach to neuroimmunological diseases.

MAIN LINES OF RESEARCH

- Study of biological and imaging biomarkers. (Vidal Jordana, Angela; Martín Aguilar, Lorena).
- Study of neurological complications of immunotherapy (CAR-T cells and immune checkpoint inhibitors). (Martín Aguilar, Lorena; Vidal Jordana, Angela).
- Clinical trials and patient-centred studies. (Vidal Fernández, Maria Nuria; Vidal Jordana, Angela).

SCIENTIFIC CHALLENGES

- Available biological and imaging biomarkers, when used in isolation, provide limited accuracy for diagnosing and monitoring autoimmune CNS diseases. There is a critical need to integrate and validate combined biomarkers that can reliably guide early and personalised treatment decisions.

- Neurological complications of emerging immunotherapies such as CAR-T cells and immune checkpoint inhibitors remain unpredictable and poorly characterised, representing a major challenge for early detection, risk stratification, and effective clinical management.

ACTIVE & AWARDED GRANTS

- Martín Aguilar, Lorena. Contratos Juan Rodes 2021. JR21/00060. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2026. 180.000,00 €

SCIENTIFIC PRODUCTION

- Rodríguez F, Fernández JI, Villarrubia N, Gracia J, Fernández E, Meca V, Díaz C, Sainz de la Maza S, Pacheco EM, Quiroga A, Ramió L, Martínez S, Bau L, Monreal E, López A, Rodero A, Borrega L, Díaz S, Eguía P, Espiño M, Chico JL, Barrero FJ, Martínez ML, García JM, De la Fuente S, Moreno I, Sainz R, Mañé MA, Caminero A, Castellanos F, Gómez A, Labiano A, Ayuso L, Abreu R, Hernández MA, Meca J, Martín L, Muriel A, Masjuan J, Costa L, Villar LM. Biomarkers of response to ocrelizumab in relapsing-remitting multiple sclerosis. *Frontiers in Immunology*. 2024; 15:1480676. DOI:10.3389/fimmu.2024.1480676. PMID:39606235. IF:5,700 (Q1/3D). Document type: Article.